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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,431	12/26/2000	Benjamin Thomas Smith	GOOGLE-7 (GP-015-91-US)	4462

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EXAMINER	
MAHMOUDI, HASSAN	

ART UNIT	PAPER NUMBER
2175	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/748,431	SMITH ET AL.	
	Examiner	Art Unit	
	Tony Mahmoudi	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. In response to communications filed on 24-May-2004, the specification of the disclosure has been amended to overcome objections made in the previous Office Action. New claims 33-35 have been added per applicant's request. Therefore, claims 1-35 are presently pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cappi (U.S. Pub. No. 2002/0038308) in view of Gilai et al (U.S. Patent No. 6,256,630.)

As to claim 1, Cappi teaches a method of providing search results (see Abstract) in response to an ambiguous search query (see paragraph 48), the ambiguous search query consisting of a sequence of ambiguous information components (see paragraph 37):

receiving information from a user (see Abstract, and see paragraph 9);

obtaining mapping information that maps the ambiguous information components (see paragraphs 37, 46, and 51) to less ambiguous information components (see paragraphs 57 and 62);

using the mapping information to translate the sequence of ambiguous information components into one or more corresponding sequences of less ambiguous information components (see paragraphs 62, 64, and 69);

providing one or more of the sequences of less ambiguous information as an input to a search engine (see paragraphs 48, 111, and 141, and see figure 12);

obtaining search results from the search engine (see paragraph 140, where "obtaining search results" is read on "assembling the results"); and

presenting the search results to the user (see paragraph 147.)

Cappi does not teach: receiving a sequence of ambiguous information components from a user.

Gilai et al teaches a word containing database accessing system and method (see Abstract), in which he teaches receiving a sequence of ambiguous information components from a user (see Abstract, and see column 3, line 1 through column 4, line 21.)

Therefore, it would have been obvious to a use having ordinary skill in the art at the time the invention was made to have modified Cappi to include receiving a sequence of ambiguous information components from a user.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Cappi by the teaching of Gilai et al, because receiving a sequence of ambiguous information components from a user, would enable the user to enter

ad-hoc and ambiguous, and possibly erroneous data (words, numbers, and phrases), without worrying about the correct spelling or the relations between the entered words and have the system display best matching results based on the entered information, as taught by Gilai et al (see column 4, lines 22-33.)

As to claims 2, 17, 22, and 28, Cappi as modified teaches wherein the mapping information is based on the configuration of a standard telephone keypad (see Gilai et al, figures 9 and 13, and see column 6, lines 52-60, and column 10, lines 17-31.)

As to claim 3, Cappi as modified teaches wherein the ambiguous information components comprise numbers and the less ambiguous information components comprise letters (see Gilai et al, column 10, lines 3-31, and see figure 13. Since each number can represent up to three letters, it is obvious that numbers represent more ambiguous entries than letters.)

As to claim 4, Cappi as modified teaches wherein each of the ambiguous information components comprises a single press of a key and the less ambiguous information comprises letters that correspond to the key (see Gilai et al, column 17, line 49 through column 18, line 9.)

As to claim 5, Cappi as modified teaches wherein the ambiguous information components comprise phonemes (see Gilai et al, column 6, lines 4-14, and see column 18, lines 53-65.)

As to claim 6, Cappi as modified teaches wherein the less ambiguous information components comprise alphanumeric information (see Gilai et al, column 19, line 31 through column 20, line 17.)

As to claim 7, Cappi as modified teaches wherein the ambiguous information components comprise visual information (see Cappi, paragraph 35.)

As to claim 8, Cappi as modified teaches wherein the act of using comprises using the mapping information in combination with a lexicon to translate the sequence of ambiguous information components into one or more corresponding sequences of less ambiguous information components (see Cappi, Abstract, and see paragraphs 37 and 46, where "lexicon" is read on "dictionary".)

As to claim 9, Cappi as modified teaches wherein the lexicon is a dictionary (see Cappi, paragraphs 37 and 46.)

As to claim 10, Cappi as modified teaches wherein the lexicon is a list of sequences of less ambiguous information components that previously have been processed by the search engine (see Cappi, paragraph 63.)

As to claims 11, 20, 23 25, and 27, Cappi as modified teaches wherein the act of providing comprises providing at least two sequences of less ambiguous information components to the search engine using a logical "OR" operation (see Cappi, paragraph 34, where "logical integration" is taught.)

As to claim 12, Cappi as modified teaches wherein the act of providing comprises:

determining a subset of the translated sequences of less ambiguous information components (see Cappi, paragraphs 62, 64, and 69); and

providing the subset of translated sequences of less ambiguous information components as an input to a search engine (see Cappi, paragraphs 48, 111, and 141, and see figure 12.)

As to claim 13, Cappi as modified teaches wherein the act of determining comprises comparing the translated sequences of less ambiguous information components against a lexicon (see Cappi, paragraph 59.)

As to claim 14, Cappi as modified teaches wherein the act of determining comprises comparing the translated sequences of less ambiguous information components against a search query log (see Gilai et al, column 20, lines 64-67.)

As to claim 15, Cappi as modified teaches wherein the act of determining comprises using statistical information about the co-occurrence of the less ambiguous information components within the sequence (see Gilai et al, column 22, lines 39-44.)

As to claim 16, Cappi teaches a method of providing search results (see Abstract) in response to an ambiguous search query (see paragraph 48), comprising:

receiving information from a user (see Abstract, and see paragraph 9);

obtaining mapping information that maps the information components (see paragraphs 37, 46, and 51) to other information components corresponding to the same key press (see paragraphs 57 and 62);

using the mapping information to determine other sequences of information components (see paragraphs 62, 64, and 69);

providing one or more of the received sequence and the other sequences as an input to a search engine (see paragraphs 48, 111, and 141, and see figure 12);

obtaining search results from the search engine (see paragraph 140, where "obtaining search results" is read on "assembling the results"); and

presenting the search results to the user (see paragraph 147.)

Cappi does not teach: receiving a sequence of ambiguous information components from a user, each information component corresponding to a key press.

Gilai et al teaches a word containing database accessing system and method (see Abstract), in which he teaches receiving a sequence of ambiguous information components

from a user (see Abstract, and see column 3, line 1 through column 4, line 21), each information component corresponding to a key press (see column 12, lines 50-55, and see column 17, line 65 through column 18, line 6.)

Therefore, it would have been obvious to a use having ordinary skill in the art at the time the invention was made to have modified Cappi to include receiving a sequence of ambiguous information components from a user, each information component corresponding to a key press.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Cappi by the teaching of Gilai et al, because receiving a sequence of ambiguous information components from a user, each information component corresponding to a key press, would enable the user to enter ad-hoc and ambiguous, and possibly erroneous data (words, numbers, and phrases), without worrying about the correct spelling or the relations between the entered words and have the system display best matching results based on the entered information, as taught by Gilai et al (see column 4, lines 22-33.)

As to claim 18, Cappi as modified teaches wherein the received information components comprise numbers and the other information components comprise letters (see Gilai et al, column 10, lines 3-31, and see figure 13.)

As to claim 19, Cappi as modified teaches wherein both the received and other information components comprise letters (see Gilai et al, column 17, lines 59-65.)

As to claim 21, Cappi teaches a method of providing search results (see Abstract) in response to an ambiguous search query (see paragraph 48), comprising:

providing at least one of the letter strings as a search query to a search engine (see paragraphs 48, 111, and 141, and see figure 12);

obtaining search results from the search engine in response to the search query (see paragraph 140, where "obtaining search results" is read on "assembling the results"); and

presenting the search results to the user (see paragraph 147.)

Cappi does not teach: receiving a string of numbers; and translating the string of numbers into a plurality of letter strings based on mapping information.

Gilai et al teaches a word containing database accessing system and method (see Abstract), in which he teaches receiving a string of numbers (see figure 9. It is inherent that a telephone keypad is used to enter a string of numbers, and see column 17, line 62 through column 18, line 9); and translating the string of numbers into a plurality of letter strings based on mapping information (see column 10, lines 17-31.)

Therefore, it would have been obvious to a use having ordinary skill in the art at the time the invention was made to have modified Cappi to include receiving a string of numbers; and translating the string of numbers into a plurality of letter strings based on mapping information.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Cappi by the teaching of Gilai et al, because receiving a string of numbers; and translating the string of numbers into a plurality of letter strings

based on mapping information , would enable the user to enter the desired input, whether alphabetic or numeric, through a "reduced" numeric keypad, such as a standard telephone keypad, as taught by Gilai et al (see column 6, lines 52-60, also see figures 9 and 13.).

As to claim 24, the applicant is directed to the remarks and discussions made in claim 21 above, where "receiving a number word" is read on Gilai et al's teaching of "receiving a string of numbers".

As to claim 26, the applicant is directed to the remarks and discussions made in claims 1, 16, 21, and 24 above.

As to claim 29, Cappi teaches a method of providing search results (see Abstract) in response to an ambiguous search query (see paragraph 48) received from a client device (see paragraphs 9 and 36):

receiving at a server device information components from a client device (see paragraph 36.)

For the remaining steps of this claim, the applicant is directed to the remarks and discussions made in claims 1, 16, 21, and 24 above.

As to claim 30, Cappi teaches a computer-readable medium (see figure 1) containing one or more instructions (see paragraphs 34 and 38) for providing search results (see Abstract) in response to an ambiguous search query, the ambiguous search query (see paragraph 48.)

For the remaining steps of this claim, the applicant is directed to the remarks and discussions made in claims 1, 16, 21, and 24 above.

As to claims 31 and 32, Cappi teaches an apparatus for providing search results in response to an ambiguous search query (see paragraph 48.)

For the remaining steps of this claim, the applicant is directed to the remarks and discussions made in claims 1, 16, 21, and 24 above.

As to claim 33, Cappi as modified, teaches wherein the act of using the mapping information (see Cappi, paragraphs 37, 46, 51, 57, and 62) to translate the sequence of ambiguous information components into one or more corresponding sequences of less ambiguous information components uses the mapping information to directly translate the sequence of ambiguous information components into one or more corresponding sequences of less ambiguous information components (see Cappi, paragraphs 62, 64, and 69.)

As to claim 34, Cappi as modified, still does not teach wherein the ambiguous information components are more ambiguous than the less ambiguous information components due to a limited capability of a user input device.

Gilai et al teaches a word containing database accessing system and method (see Abstract), in which he teaches wherein the ambiguous information components are more ambiguous than the less ambiguous information components due to a limited capability of a user input device (see figure 9, depicting the "phone key pad" as an "input device" with

"limited capabilities"; see column 17, line 49 through column 18, line 23, and see column 22, line 62 through column 23, line 37.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Cappi as modified, to include wherein the ambiguous information components are more ambiguous than the less ambiguous information components due to a limited capability of a user input device.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Cappi as modified, by the further teachings of Gilai et al, because having an input device with limited capabilities (in this case, the telephone keypad) would potentially result in "erroneous user input", "spelling inaccuracy", "punctuation inaccuracy", and "factual inaccuracy", which would result in more ambiguous information components, as taught by Gilai et al (see column 23, lines 1-19.)

As to claim 35, Cappi as modified, teaches the method further comprising looking up search results using an index including entries (see Cappi, paragraphs 80, 86, and 118), at least one entry including a sequence of less ambiguous information components mapped to a set of one or more items (see Cappi, paragraphs 37, 46, 51, 57, and 62.)

Response to Arguments

4. Applicant's arguments filed on 24-May-2004 with respect to the rejected claims in view of the cited references have been fully considered but they are not found to be persuasive:

In response to the applicant's arguments that "the Cappi publication does not address a user query consisting of ambiguous information components", the arguments have been fully considered but are not deemed persuasive, because Cappi teaches: "when a user enters a query for which no matching data element exists in data element dictionary 200, content integration manager 106 will automatically search ambiguity data element dictionary 202 for a match" (see paragraph 52.)

In response to the applicant's arguments that Cappi does not use "mapping information that maps ambiguous information components to less ambiguous information components", the arguments have been fully considered but are not deemed persuasive, because Cappi teaches: "Each row of ambiguous data element dictionary 202 also comprises a mapped data element name in field 650. The mapped data element name identifies the data element to which the ambiguous data element is 'ambiguously' related" (see paragraphs 51, where "ambiguous data" being "ambiguously related" to other elements, make the "other elements" less ambiguous. Also see paragraph 81.)

In response to the applicant's arguments that "there is no suggestion to modify and combine the references", the arguments have been fully considered but are not deemed

persuasive, because the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both cited references teach inventions that are in the same field of endeavor, and Gilai et al provides the motivation for the combination (see column 4, lines 22-33.)

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Tony Mahmoudi whose telephone number is (571) 272-4078. The examiner can normally be reached on Mondays-Fridays from 08:00 am to 04:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici, can be reached at (571) 272-4083.

tm

October 15, 2004

SAM RIMELL
PRIMARY EXAMINER